

8. (Twice Amended) A method for achieving a target electrical impedance Z_t in an electrical power distribution structure including a pair of parallel planar conductors separated by a dielectric layer, the method comprising:

determining a separation distance h between the parallel planar conductors required to achieve the target electrical impedance Z_t ;

determining a required number n of a selected type of discrete electrical capacitor dependent upon an inductance of the electrical power distribution structure L_p and a mounted inductance L_m of a representative one of the selected type of discrete electrical capacitor when electrically coupled between the planar conductors, wherein $n \geq 2$, wherein the mounted inductance L_m is less than or equal to the inductance of the electrical power distribution structure L_p ;

using the target electrical impedance Z_t to determine a required value of mounted resistance R_{m-req} for the n discrete electrical capacitors;

selecting the required number n of the selected type of discrete electrical capacitor, wherein each of the n capacitors has a mounted resistance R_m substantially equal to the value of required mounted resistance R_{m-req} ; and

electrically coupling the n discrete electrical capacitors between the planar conductors.

17. (Amended) A method for achieving a target electrical impedance Z_t in an electrical power distribution structure including a pair of parallel planar conductors separated by a dielectric layer, the method comprising:

determining a first required number n_1 of a selected type of discrete electrical capacitor dependent upon an inductance of the electrical power distribution

structure L_p and a mounted inductance L_m of a representative one of the selected type of discrete electrical capacitor when electrically coupled between the planar conductors, wherein $n_1 \geq 2$, and wherein the mounted inductance L_m of each of the selected type of discrete electrical capacitor is less than or equal to the inductance of the electrical power distribution structure L_p ;

determining a second required number n_2 of the selected type of discrete electrical capacitor dependent upon a distance d_p around an outer perimeter of the electrical power distribution structure and a spacing distance S between adjacent discrete electrical capacitors, wherein $n_2 \geq 2$;

performing the following if $n_2 \geq n_1$:

using the target electrical impedance Z_t to determine a required value of mounted resistance R_{m-req} for n_2 of the discrete electrical capacitors;

selecting n_2 of the discrete electrical capacitors, wherein each of the n_2 capacitors has a mounted resistance R_m substantially equal to the value of required mounted resistance R_{m-req} ; and

electrically coupling the n_2 discrete electrical capacitors between the planar conductors along an outer perimeter of the parallel planar conductors.

Please add the following claims:

31. (New) A method for achieving a target impedance in an electrical power distribution structure using a plurality of a decoupling capacitors, the method comprising:

determining a first required number n_1 of a selected type of decoupling capacitor and a second required number n_2 of the selected type of decoupling

capacitor, wherein n_1 and n_2 are ≥ 2 , wherein the plurality of decoupling capacitors includes the selected type of decoupling capacitor;
determining if the plurality of decoupling capacitors is to be used to suppress plane resonances in the electrical power distribution system, wherein, if the plurality of decoupling capacitors is not to be used to suppress plane resonances, then:

distributing n_1 of the selected type of decoupling capacitor across the electrical power distribution structure, wherein a mounted inductance L_m of the each of the selected type of capacitor is less than or equal to an inductance L_p of the electrical power distribution structure; and

if the plurality of decoupling capacitors is to be used to suppress plane resonances, then:

placing n_2 of the selected type of decoupling capacitor around the perimeter of the electrical power distribution structure.

32. (New) The method as recited in claim 31, wherein the electrical power distribution structure includes a pair of planar conductors, and wherein each of the plurality of the selected type of decoupling capacitor is electrically coupled between the pair of planar conductors.
33. (New) The method as recited in claim 32, wherein the inductance of the electrical power distribution structure is determined by the formula $L_p = (0.2 \cdot n \cdot \mu_0 \cdot h)$, wherein n is the quantity of the selected type of decoupling capacitor, μ_0 is the permeability of free space, and wherein h is a distance between the planar conductors.
34. (New) The method as recited in claim 32, wherein each of the planar conductors has a distance d_p around an outer perimeter, wherein each of the n_2 of the selected type of decoupling capacitor is placed at a distance S from each other, and wherein n_2 is the quotient of d_p divided by S .